BRISTOL COUNTY
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2005

buckconsultants.
an ACS company

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Report Summary:

Highlights	January 1, 2003	January 1, 2005
Contributions		
Funding Schedule FY 2006	$20,529,593	$20,940,103
Funding Schedule FY 2007	21,381,610	23,805,000
Funded Ratios		
GAS No. 25	66.2%	62.4%
Participants		
Actives	3,914	3,942
Retired	1,572	1,546
Survivors	N/A	112
Inactives	977	808
Disabled	213	225
Total	6,676	6,633
Payroll		
Payroll of Active Members	$122,142,724	$134,953,427
Average Payroll	31,207	34,235
Normal Cost		
Employer	6,731,678	7,403,432
Employee	9,787,386	10,929,758
Administrative Expenses	800,000	875,000
Total	17,319,064	19,208,190
Actuarial Accrued Liabilities		
Actives	241,534,875	286,992,209
Retirees, Beneficiaries, Disabilities and Inactives	199,157,759	248,763,665
Total	440,692,634	535,755,874
Actuarial Value of Assets	291,903,656	334,319,614
Unfunded Actuarial Accrued Liabilities	$148,788,978	$201,436,260

Introduction

This report presents the Bristol County actuarial valuation findings as of January 1, 2005, under the Commonwealth of Massachusetts Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2005.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Bristol County Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2005.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the year, the total unfunded actuarial accrued liability increased by 35.38% to $201,436,260, greater than expected. The loss is the result of net unfavorable actuarial experience during the preceding two years. The primary component of the unfavorable experience was an annual investment return on the actuarial value of assets less than the 8.50% assumption.

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2003	January 1, 2005
Superannuation	$16,519,064	$12,809,351
Termination	N/A	1,759,150
Death	N/A	770,441
Disability	N/A	2,994,248
Administrative Expenses	800,000	875,000
Total Normal Cost	17,319,064	19,208,190
% of Pay	14.2%	14.2%
Employee Contributions	9,787,386	10,929,758
% of Pay	8.0%	8.1%
Employer Normal Cost	$7,531,678	$8,278,432
% of Pay	6.2%	6.1%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2003	January 1, 2005
Actives		
Superannuations	$241,534,875	$252,378,404
Termination	N/A	$6,057,133
Death	N/A	$7,052,041
Disability	N/A	$21,504,631
Retirees and Inactives		
Retired	154,244,708	192,020,870
Vested	0	0
Survivor	N/A	5,263,596
Terminated (Refund)	3,705,993	4,501,202
Disabled	41,207,058	51,479,199
Total	$440,692,634	$535,755,874

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactives as well as all benefits earned and expected to be earned in the coming years by the actives. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2003	January 1, 2005
Actives		
Superannuation	$332,474,658	$376,448,503
Termination	9,913,368	$13,519,720
Death	13,598,887	$14,094,104
Disability	44,370,192	$54,124,909
Retirees and Inactives		
Retired	154,244,708	187,519,668
Vested	0	0
Survivor	N/A	5,263,596
Terminated (Refund)	3,705,993	4,501,202
Disabled	41,207,058	51,479,199
Total	$599,514,864	$706,950,901

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2003	January 1, 2005
Cash equivalents	6,981,832	$11,002,283
Short term investments	0	0
Fixed income securities	86,836,181	92,394,036
Equities	89,444,045	151,482,843
International	38,009,565	52,213,126
Real Estate	13,438,806	11,802,745
Venture Capital	0	0
Other	7,316,845	8,681,190
Accounts receivable	908,146	1,302,616
Accounts payable	(359,857)	(397,818)
Accrued income	677,483	495,606
Total Market Value	$243,253,047	$328,976,626
Total Actuarial Value	$291,903,656	$334,319,614

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the actuarial value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 20%. The calculation of the actuarial value of assets as of January 1, 2005 is presented in Table V.

Table V

		January 1, 2005
(1)	Market value at January 1, 2004	$300,605,373
(2)	2004 Contributions	$31,400,623
(3)	2004 Benefit payments	($31,511,528)
(4)	Net interest adjustment at 8.5% on (1),(2), and (3) to December 31, 2005	$25,546,743
(5)	Expected market value on January 1, 2005 (1) + (2) + (3) + (4)	$326,041,212
(6)	Actual market value on January 1, 2005	$328,976,626
(7)	2004 (Gain) / Loss	($2,935,415)
(8)	80% of 2004 (Gain) / Loss	($2,348,332)
(9)	2003 (Gain) / Loss	($34,518,621)
(10)	60% of 2003 (Gain) / Loss	($20,711,173)
(11)	2002 (Gain) / Loss	$51,829,463
(12)	40% of 2002 (Gain) / Loss	$20,731,785
(13)	2001 (Gain) / Loss	$38,353,534
(14)	20% of 2001 (Gain) / Loss	$7,670,707
(15)	Actuarial value on January 1, 2005, (6) + (8) + (10) + (12) + (14) but not less than 80% nor greater than 120% of (6)	$334,319,614
	Ratio of actuarial value to market value	101.62%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2003	January 1, 2005
Actuarial Accrued Liability	$440,692,634	$535,755,874
Actuarial Assets	291,903,656	334,319,614
Unfunded Actuarial Accrued Liability	$148,788,978	$201,436,260
Funded Status	66.2%	62.4%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability and the 2002 ERI liability by June 30, 2023
  - $ 197,806,591 over 18 years with 4.5 % increasing payments
- Level amortization of the prior ERI liability by June 30, 2008
  - $ 78,771 over 3 years

  Level amortization of the 2003 ERI liability by June 30, 2020
  - $ 3,550,899 over 15 years
- Interest adjustment for payments deposited at the beginning of the fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2003	January 1, 2005
Normal cost	$7,531,678	$8,278,432
Amortization payment of the accrued liability and 2002 ERI	6,733,372	11,402,182
Amortization payment of the 2003 ERI	0	394,102
Amortization payment of the original ERI	28,426	28,426
Amortization payment of current (gains)/losses	3,642,479	0
Total cost	$17,935,955	$20,103,142
% of Pay	14.7%	14.9%
Fiscal 2006 cost	$20,529,593	$20,940,103
Fiscal 2007 cost	$21,381,610	$23,805,000

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be spread over the fiscal year.

The employer total cost is expected to increase during the next 18 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total FY06 cost increase represents 15.5% of payroll, increasing to 18.2% for FY08 and decreasing to 16.2% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 4.3% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast
(amounts in thousands)

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2006	$134,953	$10,930	$8,623	$12,317	$20,940	15.5	62.4
2007	141,026	11,576	8,851	14,954	23,805	16.9	64.0
2008	147,373	12,257	9,082	17,808	26,890	18.2	65.8
2009	154,004	12,977	9,315	18,561	27,876	18.1	68.1
2010	160,934	13,737	9,551	19,378	28,929	18.0	70.3
2011	168,177	14,538	9,790	20,231	30,021	17.9	72.4
2012	175,744	15,384	10,031	21,123	31,154	17.7	74.6
2013	183,653	16,277	10,273	22,055	32,329	17.6	76.7
2014	191,917	17,219	10,517	23,029	33,547	17.5	78.8
2015	200,554	18,213	10,763	24,047	34,810	17.4	80.9
2016	209,579	19,261	11,009	25,111	36,120	17.2	83.0
2017	219,010	20,367	11,255	26,222	37,477	17.1	85.1
2018	228,865	21,533	11,502	27,384	38,885	17.0	87.1
2019	239,164	22,763	11,747	28,598	40,345	16.9	89.2
2020	249,926	24,060	11,992	29,866	41,858	16.7	91.4
2021	261,173	25,428	12,234	30,781	43,015	16.5	93.5
2022	272,926	26,870	12,475	32,166	44,641	16.4	95.6
2023	285,207	28,390	12,712	33,614	46,325	16.2	97.8
2024	298,042	29,993	12,945	0	12,945	4.3	100.0
2025	311,454	31,683	13,173	0	13,173	4.2	100.0
2026	325,469	33,464	13,396	0	13,396	4.1	100.0
2027	340,115	35,341	13,612	0	13,612	4.0	100.0
2028	355,420	37,319	13,821	0	13,821	3.9	100.0
2029	371,414	38,998	14,443	0	14,443	3.9	100.0
2030	388,128	40,753	15,093	0	15,093	3.9	100.0
2031	405,594	42,587	15,772	0	15,772	3.9	100.0
2032	423,845	44,504	16,482	0	16,482	3.9	100.0
2033	442,918	46,506	17,223	0	17,223	3.9	100.0
2034	462,850	48,599	17,998	0	17,998	3.9	100.0
2035	483,678	50,786	18,808	0	18,808	3.9	100.0
2036	505,444	53,072	19,655	0	19,655	3.9	100.0
2037	528,188	55,460	20,539	0	20,539	3.9	100.0

* Calendar basis

** As of beginning of the Fiscal Year

GAS No. 25 and GAS No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2003	January 1, 2005
(1)	Actuarial Accrued Liability	$440,692,634	$535,755,874
(2)	Actuarial Value of Assets	291,903,656	334,319,614
(3)	Unfunded Actuarial Accrued Liability	148,788,978	201,436,260
(4)	Funded Ratio (2)/(1)	66.2%	62.4%
(5)	Covered Payroll	$122,142,724	$134,953,427
(6)	UAAL as a percentage of payroll: (3)/(5)	121.8%	149.3%
(7)	Annual Required Contribution (ARC)	$15,742,000	$20,940,103
(8)	Net Pension Obligation	$0	$0

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2005.

The normal cost for employees on that date was:	$10,929,758	8.1% of pay
The normal cost for the employer was:	7,403,432	5.5% of pay

The actuarial liability for active members was:	$286,992,209
The actuarial liability for retired members was:	248,763,665
Total actuarial accrued liability:	535,755,874
System assets as of that date:	334,319,614
Unfunded actuarial accrued liability:	$201,436,260

The ratio of system's assets to total actuarial liability was 62.4%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.5%
Rate of Salary Increase:	5.5%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/05	$334,319,614	$535,755,874	$201,436,260	62.4%	$134,953,427	149.3%
01/01/03	291,903,656	440,692,634	148,788,978	66.2%	122,142,724	121.8%
01/01/01	275,463,114	373,562,277	98,099,163	73.7%	121,345,005	80.8%
01/01/99	226,836,196	311,255,734	84,419,538	72.9%	95,169,522	88.7%
01/01/98	185,852,667	281,492,555	95,639,888	66.0%	90,608,158	105.6%
01/01/96	123,507,326	219,795,268	96,287,942	56.2%	79,225,005	121.5%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

P:\Actrh\19029Bristol\Val05\[ACT1.XLS]Actives

Age/Service Distribution with Salary as of January 1, 2005

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	1	0	0	0	0	0	0	0	0	1
	15,336	0	0	0	0	0	0	0	0	15,336
20-24	67	0	0	0	0	0	0	0	0	67
	27,149	0	0	0	0	0	0	0	0	27,149
25-29	185	34	0	0	0	0	0	0	0	219
	24,899	33,572	0	0	0	0	0	0	0	26,245
30-34	166	116	40	1	0	0	0	0	0	323
	29,146	38,325	40,737	27,684	0	0	0	0	0	33,874
35-39	208	142	117	42	2	0	0	0	0	511
	24,744	41,034	43,739	50,589	49,336	0	0	0	0	35,840
40-44	249	138	106	94	25	1	0	0	0	613
	21,891	32,215	39,627	47,297	53,025	45,546	0	0	0	32,486
45-49	220	171	91	91	59	31	1	0	0	664
	21,681	25,875	34,721	42,329	56,091	51,741	50,423	0	0	31,883
50-54	134	138	92	107	49	51	28	2	0	601
	21,986	28,455	31,345	38,284	50,192	57,461	53,663	48,722	0	34,681
55-59	96	101	73	111	59	38	35	8	0	521
	24,483	31,285	30,170	32,899	34,677	47,467	58,959	50,346	0	33,935
60-64	44	51	55	53	31	27	19	4	2	286
	25,238	29,231	28,233	29,722	33,629	36,302	40,946	60,936	43,560	30,982
65-69	13	17	13	22	12	6	3	2	1	89
	22,664	24,321	28,593	32,869	32,315	33,169	39,653	82,734	57,727	30,695
70+	11	8	7	4	3	5	2	6	3	49
	21,403	20,890	27,323	30,993	18,564	34,358	33,833	33,049	31,179	26,628
Total Employees	1,394	916	594	525	240	159	88	22	6	3,944
Average Salary	24,091	32,142	35,874	39,278	44,687	48,646	52,059	50,351	39,731	32,795

P:\Actrl\19029Bristol\Val05\[RET1.XLS]Retirees

Retiree Distribution as of January 1, 2005

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	1	1	0	2,580	2,580
20-24	1	0	1	2,940	0	2,940
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	1	1	0	5,520	5,520
40-44	0	0	0	0	0	0
45-49	7	2	9	89,127	35,135	124,262
50-54	32	7	39	860,284	76,245	936,528
55-59	88	55	143	2,495,945	619,216	3,115,160
60-64	126	116	242	2,921,158	1,503,663	4,424,821
65-69	128	110	238	2,644,558	1,066,668	3,711,226
70-74	126	152	278	1,984,249	1,445,445	3,429,694
75-79	130	136	266	1,694,144	1,081,177	2,775,321
80-84	118	141	259	1,055,621	855,400	1,911,021
85-89	65	51	116	494,386	272,691	767,077
90-94	27	18	45	196,755	126,161	322,916
95-99	14	7	21	94,804	42,119	136,923
Total	862	797	1,659	14,533,970	7,132,020	21,665,990
Average (Age/Payment)	72	73.1	72.5	16,861	8,949	13,060
Frequency Percent	52	48	100	67.1	32.9	100

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Disabled Retiree Distribution as of January 1, 2005

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	8	0	8	180,397	0	180,397
40-44	10	1	11	279,492	14,431	293,924
45-49	17	8	25	463,682	156,070	619,751
50-54	21	3	24	561,183	28,875	590,058
55-59	29	2	31	822,471	22,769	845,240
60-64	32	4	36	769,769	26,299	796,067
65-69	24	3	27	592,420	41,462	633,882
70-74	23	5	28	405,968	83,045	489,013
75-79	20	0	20	328,968	0	328,968
80-84	9	0	9	93,897	0	93,897
85-89	6	0	6	53,620	0	53,620
90-94	0	1	1	0	3,568	3,568
95-99	0	0	0	0	0	0
Total	199	27	226	4,551,867	376,518	4,928,385
Average (Age/Payment)	62.2	59.8	61.9	22,874	13,945	21,807
Frequency Percent	88.1	11.9	100	92.4	7.6	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2005	$29,173	$10,930	$20,940	$28,054	$30,751
2006	30,873	11,576	23,805	30,729	35,237
2007	32,584	12,257	26,890	33,794	40,357
2008	34,512	12,977	27,876	37,200	43,541
2009	36,560	13,737	28,929	40,875	46,981
2010	38,891	14,538	30,021	44,834	50,502
2011	41,432	15,384	31,154	49,087	54,193
2012	44,196	16,277	32,329	53,647	58,057
2013	47,332	17,219	33,547	58,524	61,958
2014	50,504	18,213	34,810	63,735	66,254
2015	53,890	19,261	36,120	69,306	70,797
2016	57,502	20,367	37,477	75,257	75,599
2017	61,356	21,533	38,885	81,611	80,673
2018	65,469	22,763	40,345	88,390	86,029
2019	69,858	24,060	41,858	95,617	91,677
2020	74,540	25,428	43,015	103,300	97,203
2021	79,537	26,870	44,641	111,462	103,436
2022	84,868	28,390	46,325	120,145	109,992
2023	90,557	29,993	12,945	127,914	80,295
2024	96,627	31,683	13,173	134,545	82,774
2025	103,104	33,464	13,396	141,373	85,129
2026	110,015	35,341	13,612	148,387	87,325
2027	117,390	37,319	13,821	155,572	89,322
2028	125,259	38,998	14,443	162,893	91,075
2029	133,655	40,753	15,093	170,343	92,534
2030	142,614	42,587	15,772	177,897	93,642
2031	152,174	44,504	16,482	185,522	94,334
2032	162,374	46,506	17,223	193,183	94,538
2033	173,258	48,599	17,998	200,836	94,175
2034	179,073	50,786	18,808	208,672	99,193

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2005, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees for the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

(iv) if an employee is a State Police officer (Group 3), attainment of age 50

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at Retirement	Percentage of Average Salary Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For Group 3 (State Police), the benefit is 50% of the participant's final year's rate of regular salary, plus an additional 1% for each year of service in excess of 20 years. In addition, for veterans (all groups) there is an additional benefit of $15 per year for each year of service, up to a maximum of 20 years of service.

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. **Member Data**

   The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. **Valuation Date**

   January 1, 2005.

3. **Actuarial Cost Method**

   The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. **Rate of Investment Return**

   It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.5% per annum.

5. **Salary Scale**

   It is assumed that salaries including longevity will increase at a rate of 5.5% per year.

6. **Cost-of-Living Increases**

   Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

7. **Value of Investments**

   Assets held by the fund are valued at market value as reported by the Public Employees'

Retirement Administration Commission (PERAC). The actuarial value of assets is determined using a five-year smoothing of gains and losses.

8. **Annual Rate of Withdrawal Prior to Retirement**

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. **Annual Rate of Mortality**

It is assumed that both preretirement and postretirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2006 is $875,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. **Actuarial Accrued Liability**

   That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. **Actuarial Assumptions**
   Assumptions as to the occurrence of future events affecting the Retirement System such as:

   - Rates of investment returns
   - Increases in a member's salary
   - Inflation
   - The probability of mortality, turnover, disablement
   - Retirement at each age and other relevant items

3. **Actuarial Cost Method**

   A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. **Actuarial Present Value**

   The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. **Forecast**

   A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. **Normal Cost**

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. **Unfunded Actuarial Accrued Liability**

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. **Valuation Method**

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. **Vested Liability**

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the Bristol County Contributory Retirement System contributing as of January 1, 2005, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost is reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

David W. Sherman

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Enrolled Actuary No. 99-4086

July 2005